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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/898,350	07/03/2001	W. James Scheuermann	2098P/QST-015 US	1053

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Joseph A. Sawyer, Jr.  
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EXAMINER
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STRANGE, AARON N

ART UNIT	PAPER NUMBER
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2153

DATE MAILED: 10/28/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/898,350

Applicant(s)

SCHEUERMANN, W. JAMES

Examiner

Aaron Strange

Art Unit

2153

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 03 July 2001.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-23 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 03 July 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Drawings***

1. The drawings are objected to because they are handwritten and difficult to read. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### ***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Art Unit: 2153

3. Claims 1-11, 15, and 19-22 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

4. With regard to claims 1 and 8, it is unclear how an interconnection network formed "to support services between any two processing nodes" and/or formed "to support a host DMA service, a node DMA service, a host read/write service, and a node read/write service" differs from any other network. The interconnection network is described in the specification as a "single set of wires", and it is unclear how a set of wires may be "formed to support" services.

5. Claims 19 and 20 are rejected under similar rationale to claims 1 and 8, since they recite similar subject matter.

6. With regard to claims 4, 15 and 22, the term "matrix element" is unclear. It is not defined by the claim and the specification merely defines reconfigurable matrices by stating that they contain a "different or varied mix of computation units". It is unclear what "computation units" are, and since they are the components of a matrix element, it is unclear what matrix elements are.

7. All claims not individually rejected are rejected by virtue of their dependency from the above claims.

***Claim Rejections - 35 USC § 102***

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

9. Claims 1-8,12,13,15-17, 19-21, and 23 are rejected under 35 U.S.C. 102(b) as being anticipated by Reilly (US 5,787,237).

10. With regard to claims 1,12,20, and 23 Reilly discloses a method for supporting communication among a plurality of heterogeneous processing elements of a processing system, the method comprising:

forming an interconnection network to support services between any two processing nodes within a plurality of processing nodes (Col 7, Lines 39-42);

utilizing a predefined data word format (imaging device protocol) for communication among the plurality of processing nodes on the interconnection network (Col 3, Lines 54-57), the predefined data word format indicating a desired service (col. 3, lines 3- 12); and

arbitrating among communications in the network to ensure fair access to the network by each processing node (jobs are queued and released one at a time to the printers)(Col 8, Line 66 to Col 9, Line 31).

11. With regard to claim 2, Reilly further discloses that forming an interconnection network further comprises forming connections between each node in a grouping of nodes and between each of a plurality of groupings (Fig 6, Col 7, Lines 39-46).

12. With regard to claims 3,13, and 21 Reilly further discloses wherein the grouping of nodes further comprises a grouping of four nodes (Fig. 6, col. 7, lines 39-46).

13. With regard to claims 4 and 15, Reilly further discloses utilizing a matrix element as a processing node (Col 2, Lines 41-42).

14. With regard to claim 5 and 16, Reilly further discloses utilizing a RISC element as a processing node (Col 3, Lines 53-57).

15. With regard to claim 6, Reilly further discloses that forming an interconnection network further comprises forming a network of connections to support services in a point-to-point manner (see fig. 3).

Art Unit: 2153

16. With regard to claims 7 and 17, Reilly further discloses utilizing the interconnection network to support services between a node and a host processor external to the plurality of processing nodes (Fig. 1, col. 2, lines 1-7).

17. With regard to claims 8 and 19, Reilly further discloses that the interconnection network is formed to support a host DMA service, a node DMA service, a host read/write service, and a node read/write service (Col 7, Lines 39-42 and Col 9, Lines 16-19).

***Claim Rejections - 35 USC § 103***

18. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

19. Claims 9,10, and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Reilly (US 5,787,237) in view of Official Notice.

20. With regard to claims 9,10, and 18, while the system disclosed by Reilly shows substantial features of the claimed invention (discussed above), it fails to specifically disclose the format of the data word utilized or that the data word format includes a

service field, a node field, a tag field, and a data field and/or the word further comprises a 30-bit data word.

The Examiner takes Official Notice that the format of the data word would have merely been a matter of personal preference to the system designer, and that it would have been apparent to one of ordinary skill in the art which fields to include in the data word in order to provide the desired services.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use any appropriate fields in the data word, including service, node, data, and/or tag fields in order to provide the desired services over the network.

21. Claims 11 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Reilly (US 5,787,237) in view of Gehman (US 6,073,132).

22. With regard to claims 11 and 14, while the system disclosed by Reilly shows substantial features of the claimed invention (discussed above), it fails to disclose that access to the network is arbitrated in a token-based, round-robin manner.

Gehman discloses a well-known arbitration scheme for maintaining fair access to a shared network. Gehman discloses using a token-based, round-robin method to control access to the network. Only the device currently in possession of the token may transmit on the network. Once the transmission is complete, the token is passed on to the next device (Col 1, Lines 42-54).



Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use a token-based, round robin arbitration scheme to enforce fair access to the shared network.

### ***Conclusion***

23. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Aaron Strange whose telephone number is 571-272-3959. The examiner can normally be reached on M-F 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glen Burgess can be reached on 571-272-3949. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



AS  
10/18/2005